

Advanced Java Lab

Week-10

Roll Number: 238W1A12c4

1. Demonstrate @Component, @Service, @Repository

Code:

@Component:

@Component is a generic Spring bean.
Use it for any general-purpose class

MessageComponent.java:

```
package com.example.demo;  
  
import org.springframework.stereotype.Component;  
  
@Component  
  
public class MessageComponent {  
  
    public String getMessage() {  
  
        return "Hello from @Component!";  
  
    }  
  
}
```

@Service:

@Service is used for business logic classes.

UserService.java:

```
package com.example.demo;  
  
import org.springframework.stereotype.Service;  
  
@Service  
  
public class UserService {  
  
    public String getUserName() {  
  
        return "Service: Returning Username";  
    }  
}
```

```
}
```

```
}
```

@Repository:

`@Repository` is used for DAO (database access) classes.

StudentRepository.java:

```
package com.example.demo;
```

```
import org.springframework.stereotype.Repository;
```

```
@Repository
```

```
public class StudentRepository {
```

```
    public String getStudent() {
```

```
        return "Repository: Fetching Student Record";
```

```
}
```

```
}
```

2. Use `@Autowired` and `@Qualifier` to Inject Dependencies

Code:

Greeting Interface:

```
package com.example.demo;
```

```
public interface Greeting {
```

```
    String greet();
```

```
}
```

EnglishGreeting.java:

```
package com.example.demo;
```

```
import org.springframework.stereotype.Component;
```

```
@Component("englishGreeting")
```

```
public class EnglishGreeting implements Greeting {  
    public String greet() {  
        return "Hello!";  
    }  
}
```

TeluguGreeting.java:

```
package com.example.demo;  
  
import org.springframework.stereotype.Component;  
  
@Component("teluguGreeting")  
public class TeluguGreeting implements Greeting {  
    public String greet() {  
        return "Namaskaram!";  
    }  
}
```

GreetingController.java:

```
package com.example.demo;  
  
import org.springframework.beans.factory.annotation.Autowired;  
import org.springframework.beans.factory.annotation.Qualifier;  
import org.springframework.web.bind.annotation.GetMapping;  
import org.springframework.web.bind.annotation.RestController;
```

@RestController

```
public class GreetingController {
```

@Autowired

```
@Qualifier("englishGreeting")
```

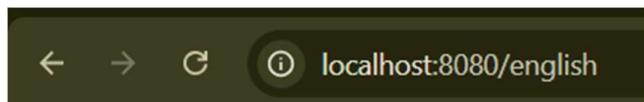
```
private Greeting english;

@Autowired
@Qualifier("teluguGreeting")
private Greeting telugu;

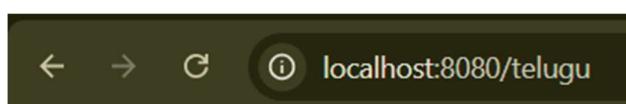
@GetMapping("/english")
public String englishGreeting() {
    return english.greet();
}

@GetMapping("/telugu")
public String teluguGreeting() {
    return telugu.greet();
}
```

Output:



Hello!



Namaskaram!